

This listing of claims is provided for convenience:

Listing of Claims:

Claim 1 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing, said housing including a first upper edge portion having an outside surface of generally constant first diameter, and a second lower portion spaced from said upper edge portion and having an outside surface of a generally constant second diameter, said second diameter being larger than said first diameter, said housing including a third intermediate portion extending from said distal edge portion to said second lower portion, said third intermediate portion having an outside surface with a changing diameter;

a resealable valve resiliently restrained relative to said housing, said valve including a first valve portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be easily wipeable, a second valve portion integral with said first valve portion and extending generally vertically downward within said passageway from a lower surface of said first valve portion, said valve having a third valve portion extending from one of said second valve portion and a lower surface of said first valve portion, a lower end portion of said third valve portion attached to said housing to form a sealed second passageway within said third valve portion, said third valve portion and said housing defining a space between said third valve portion and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first valve portion, said first valve portion and said second valve portion are forced radially open by the luer tip and form a radial seal about said luer tip and allow fluid to be injected from said tip into said second passageway, the attachment of

said lower end portion of said third valve portion to said housing being such that fluid injected into said second passageway flows through said housing without flowing into said space.

Claim 2 (previously presented): The connector device of claim 1 wherein said valve includes a septum having an annular skirt attached to said first valve portion, said skirt extending over and attached to an outside surface of said housing proximate said opening.

Claim 3 (original): The connector device of claim 2 wherein said septum includes an annular channel formed by said skirt and said first portion, a distal edge portion of said housing received in said channel.

Claim 4 (original): The connector device of claim 3 wherein said distal edge portion forms a distal landing received in said channel, at least a portion of said distal landing being attached to said septum.

Claim 5 (original): The connector of claim 4 wherein the entire length of said landing is attached to said septum.

Claim 6 (original): The connector device of claim 5 wherein said connector includes a bonding agent to attach said outside surface of said housing and said landing to said septum.

Claim 7 (original): The connector device of claim 1 wherein said second portion of said resealable valve is formed with a generally rectangular cross section in the proximate direction.

Claim 8 (previously presented): The connector device of claim 1 wherein said second valve portion is in a stretched configuration.

Claim 9 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

a resealable valve resiliently restrained relative to said housing, said valve including,

a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be easily wipeable,

a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, and

a third portion attached to said lower surface of said first portion and extending downward, a lower end portion of said third portion attached to said housing to form a sealed second passageway within said third portion, said second portion extending within said second sealed passageway portion, said third portion and said housing defining a space between said third portion and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion, said first portion and said second portion are forcibly opened by the luer tip and form a radial seal about said luer tip and allow fluid to be injected from said tip into said second passageway, the attachment of said lower end portion of said third portion to said housing being such that fluid injected into said second passageway flows through said housing without flowing into said space.

Claim 10 (previously presented): The connector device of claim 9 which includes a septum having an annular channel formed by said first portion, a distal edge portion of said housing received in said channel.

Claim 11 (original): The connector device of claim 10 wherein said distal edge portion forms a distal landing received in said channel, at least a portion of said distal landing being attached to said septum.

Claim 12 (original): The connector of claim 11 wherein the entire length of said landing is attached to said septum.

Claim 13 (original): The connector device of claim 12 wherein said connector includes a bonding agent to attach said outside surface of said housing and said landing to said septum.

Claim 14 (original): The connector device of claim 13 wherein said second portion of said resealable valve is formed with a generally rectangular cross section in the proximate direction.

Claim 15 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

- a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

- a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be easily wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, said valve having a third portion extending from one of said second portion and a lower surface of said first portion, a lower end portion of said third portion attached to said housing to form a sealed second passageway, said valve and said housing defining a space between said valve and said housing;
- and

- an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion, said first portion and said second portion are radially opened by the luer tip and form a radial seal about said luer tip and allow fluid to be injected from said tip, the attachment of said lower end portion of said third portion to

said housing being such that fluid injected from said tip flows through said housing without flowing into said space.

Claim 16 (previously presented): The connector device of claim 15 which includes a septum having an annular channel formed by said first portion, a distal edge portion of said housing received in said channel.

Claim 17 (previously presented): The connector device of claim 16 wherein said distal edge portion forms a distal landing received in said channel, at least a portion of said distal landing being attached to said septum.

Claim 18 (previously presented): The connector of claim 17 wherein the entire length of said landing is attached to said septum.

Claim 19 (previously presented): The connector device of claim 18 wherein said connector includes a bonding agent to attach said outside surface of said housing and said landing to said septum.

Claim 20 (previously presented): The connector device of claim 15 wherein said second portion of said resealable valve is formed with a generally rectangular cross section in the proximate direction.

Claim 21 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

- a housing forming an upper opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

- a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper

surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, and a third portion extending from a lower surface of said second portion, a lower end portion of said third portion attached to said housing to form a sealed second passageway within said third portion, at least portions of said valve and said housing defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion into said second portion, the luer tip opens said first portion and said second portion, forming a radial seal about said luer tip, the attachment of said lower end portion of said third portion to said housing being such that fluid injected from said tip flows through said housing without flowing into said space.

Claim 22 (previously presented): The connector device of claim 21 which includes a septum having an annular channel formed by said first portion, a distal edge portion of said housing received in said channel.

Claim 23 (previously presented): The connector device of claim 22 wherein said distal edge portion forms a distal landing received in said channel, at least a portion of said distal landing being attached to said septum.

Claim 24 (previously presented): The connector of claim 23 wherein the entire length of said landing is attached to said septum.

Claim 25 (previously presented): The connector device of claim 24 wherein said connector includes a bonding agent to attach said outside surface of said housing and said landing to said septum.

Claim 26 (previously presented): The connector device of claim 25 wherein said second portion of said resealable valve is formed with a generally rectangular cross section in the proximate direction.

Claim 27 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, said valve having a third portion attached to said second portion and sealingly attached to said housing, at least a portion of said valve and said housing defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion and within said second portion, the luer tip radially opens said first portion and said second portion, forming a radial seal about said luer tip, the attachment of said lower end portion of said third portion to said housing being such that when fluid is then injected from said tip, the fluid flows through said housing without flowing into said space.

Claim 28 (previously presented): The connector device of claim 27 wherein when the luer tip is inserted into the valve and fluid is injected through said tip upon removal of the luer tip, at least some fluid remaining in the second passageway is forced into the housing.

Claim 29 (previously presented): The connector device of claim 27 wherein the third portion extends downwardly within the housing.

Claim 30 (previously presented): The connector device of claim 27 wherein the third portion is integral with the second portion.

Claim 31 (previously presented): The connector device of claim 27 wherein the third portion extends for a length greater than a diameter of the upper surface.

Claim 32 (previously presented): The connector device of claim 27 wherein the housing includes upper and lower pieces that crimp the third portion of the valve so as to be sealingly attached to said housing.

Claim 33 (previously presented): The connector device of claim 27 including a collapsing member located in the space.

Claim 34 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

- a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

- a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, said valve having a third portion attached to said second portion and extending downward, a lower end portion of said third portion attached to said housing to form a sealed second passageway within said third portion, said valve and said housing defining a space between said third portion and said valve;

- a collapsing member connected to the third portion and located in the annular space; and

- an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion, the luer tip pries said first portion and said second portion open, forming a radial seal about said luer tip and allowing fluid to be injected from said tip into said second passageway, the attachment of said lower end portion of

said third portion to said housing being such that fluid injected into said second passageway flows through said housing without flowing into said space.

Claim 35 (previously presented): The connector device of claim 34 wherein upon removal of the luer tip, at least some of the fluid remaining in the second passageway is forced into the housing.

Claim 36 (previously presented): The connector device of claim 34 wherein the collapsing member is a split collar.

Claim 37 (previously presented): The connector device of claim 34 wherein the third portion extends downwardly within the housing.

Claim 38 (previously presented): The connector device of claim 34 wherein the third portion is integral with the second portion.

Claim 39 (previously presented): The connector device of claim 34 wherein the third portion extends for a length greater than a diameter of the upper surface.

Claim 40 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion extending generally vertically downward within said passageway from a lower surface of said first portion, said valve having a third portion extending from the

second portion, a lower end portion of said third portion being so oriented with respect to said housing to form a sealed second passageway, said valve and said housing defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion, said first portion and said second portion are elastically opened by the luer tip to form a radial seal about said luer tip, allowing fluid to be injected from said tip into said second passageway, the lower end portion of said third portion and said housing being oriented such that fluid injected into said second passageway flows through said housing without flowing into said space.

Claim 41 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be easily wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, said second portion having an end attached to said housing such that said valve forms a sealed second passageway defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion, said luer tip radially opens said first portion and said second portion, forming a radial seal about said luer tip and allowing fluid to be injected from said tip, the attachment of said valve to said housing being such that fluid injected from said tip flows through said housing without flowing into said space.

Claim 42 (previously presented): The connector device of claim 41 which includes a septum having an annular channel formed by a skirt and said first portion, a distal edge portion of said housing received in said channel.

Claim 43 (previously presented): The connector device of claim 42 wherein said distal edge portion forms a distal landing received in said channel, at least a portion of said distal landing being attached to said septum.

Claim 44 (previously presented): The connector of claim 43 wherein the entire length of said distal landing is attached to said septum.

Claim 45 (previously presented): The connector device of claim 44 wherein said connector includes a bonding agent to attach said outside surface of said housing and said distal landing to said septum.

Claim 46 (previously presented): The connector device of claim 41 wherein said second portion of said resealable valve is formed with a generally rectangular cross section in the proximate direction.

Claim 47 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

- a housing forming an upper opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

- a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, and a third portion

attached to a lower surface of said second portion, a portion of said third portion attached to said housing to form a sealed second passageway, at least portions of said valve and said housing defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion into said second portion, said first portion and said second portion are elastically forced open by the luer tip, forming a radial seal about said luer tip, the attachment of said lower end portion of said third portion to said housing being such that fluid injected from said tip does not flow into said space.

Claim 48 (previously presented): The connector device of claim 47 which includes a septum having an annular channel formed by said first portion, a distal edge portion of said housing received in said channel.

Claim 49 (previously presented): The connector device of claim 48 wherein said distal edge portion forms a distal landing received in said channel, at least a portion of said distal landing being attached to said septum.

Claim 50 (previously presented): The connector of claim 49 wherein the entire length of said landing is attached to said septum.

Claim 51 (previously presented): The connector device of claim 50 wherein said connector includes a bonding agent to attach said outside surface of said housing and said landing to said septum.

Claim 52 (previously presented): The connector device of claim 51 wherein said second portion of said resealable valve is formed with a generally rectangular cross section in the proximate direction.

Claim 53 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing;

a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion integral with said first portion and extending generally vertically downward within said passageway from a lower surface of said first portion, said valve having a third portion sealingly attached to said housing, at least a portion of said valve and said housing defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted downward into said opening in said housing and through said first portion, said first portion and said second portion are elastically opened by a radial force applied by the luer tip, forming a radial seal about said luer tip, the attachment of said third portion to said housing being such that when fluid is then injected from said tip, the fluid flows through said housing without flowing into said space.

Claim 54 (previously presented): The connector device of claim 53 wherein the third portion is integral with the second portion.

Claim 55 (previously presented): The connector device of claim 15 wherein said second portion is in a stretched configuration.

Claim 56 (previously presented): The connector device of claim 15 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 57 (previously presented): The connector device of claim 15 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 58 (previously presented): The connector device of claim 21 wherein said second portion is in a stretched configuration.

Claim 59 (previously presented): The connector device of claim 21 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 60 (previously presented): The connector device of claim 21 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 61 (previously presented): The connector device of claim 27 wherein said second portion is in a stretched configuration.

Claim 62 (previously presented): The connector device of claim 27 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 63 (previously presented): The connector device of claim 27 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 64 (previously presented): The connector device of claim 34 wherein said second portion is in a stretched configuration.

Claim 65 (previously presented): The connector device of claim 34 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 66 (previously presented): The connector device of claim 34 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 67 (previously presented): The connector device of claim 40 wherein said second portion is in a stretched configuration.

Claim 68 (previously presented): The connector device of claim 40 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 69 (previously presented): The connector device of claim 40 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 70 (previously presented): The connector device of claim 41 wherein said second portion is in a stretched configuration.

Claim 71 (previously presented): The connector device of claim 41 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 72 (previously presented): The connector device of claim 41 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 73 (previously presented): The connector device of claim 47 wherein said second portion is in a stretched configuration.

Claim 74 (previously presented): The connector device of claim 47 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 75 (previously presented): The connector device of claim 47 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 76 (previously presented): The connector device of claim 53 wherein said second portion is in a stretched configuration.

Claim 77 (previously presented): The connector device of claim 53 wherein said second portion is stretched so as to hinder buckling of said second portion when said luer tip is inserted downward into said opening.

Claim 78 (previously presented): The connector device of claim 53 wherein said second portion is stretched during assembly of the connector and attached to said housing in a stretched configuration.

Claim 79 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening and a first passageway sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening, said first passageway extending from said opening in a downward direction within said housing, said housing including a first upper edge portion having an outside surface of generally constant first diameter, and a second lower portion spaced from said upper edge portion and having an outside surface of a generally constant second diameter, said second diameter being larger than said first diameter, said

housing including a third intermediate portion extending between said first upper edge portion and said second portion, said third portion having an outside surface with a changing diameter;

a resealable valve resiliently restrained relative to said housing, said valve including a first valve portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be easily wipeable, a second valve portion integral with said first valve portion and extending generally vertically downward within said passageway from a lower surface of said first valve portion, said valve having a third valve portion extending from one of said second valve portion and a lower surface of said first valve portion, a lower end portion of said third valve portion abutted against said housing to form a sealed second passageway, said third valve portion and said housing defining a space between said third valve portion and said housing; and

an opening formed in said valve such that when the luer tip is inserted into said opening in said housing and through said opening, said luer tip forcibly opens said first valve portion and said second valve portion, forms a radial seal about said luer tip and allows fluid to be injected from said tip into said second passageway, the abutment of said lower end portion of said third valve portion to said housing being such that fluid injected into said second passageway flows through said housing without flowing into said space.

Claim 80 (previously presented): The connector device of claim 79 wherein said third portion of said housing transitions from said first portion to said second portion of said housing.

Claim 81 (previously presented): The connector device of claim 79 wherein said lower end portion of said third valve portion is attached to said housing to form the sealed second passageway within said third portion.

Claim 82 (previously presented): The connector device of claim 79 wherein said space between said third valve portion and said housing is a generally annular space.

Claim 83 (previously presented): The connector device of claim 79 wherein at least a portion of said third portion of said valve prior to insertion of the luer tip widens towards its lower end portion.

Claim 84 (previously presented): The connector device of claim 79 wherein the third valve portion extends generally downwardly within said housing.

Claim 85 (previously presented): A connector device for establishing a sealed connection with a male luer assembly, said assembly including a male luer tip, said connector device comprising:

a housing forming an upper end opening sized to receive the male luer tip, said housing having an upper end portion configured to receive the male luer assembly when the male luer tip is inserted downward into said opening;

a resealable valve resiliently restrained relative to said housing, said valve including a first portion configured to seal said opening prior to insertion of said tip and having an upper surface radially extending across said opening, said upper surface being disposed and shaped to be wipeable, a second portion integral with said first portion and extending downward within said housing from said first portion, said valve having a third portion sealingly abutted to said housing, at least a portion of said valve and said housing defining a space between said valve and said housing; and

an opening formed in said valve such that when the luer tip is inserted into said opening in said housing, said first portion and said second portion are radially opened by the luer tip, forming a radial seal about said luer tip, the abutment of said third portion to said housing being such that when fluid is injected from said male luer tip, the fluid flows through said housing without flowing into said space.

Claim 86 (previously presented): The connector device of claim 85 wherein the third portion extends generally downwardly within said housing.

Claim 87 (previously presented): The connector device of claim 85 wherein said third portion is attached to said housing to form the seal.

Claim 88 (previously presented): The connector device of claim 85 wherein said space between said third portion and said housing is a generally annular space.

Claim 89 (previously presented): The connector device of claim 85 wherein at least a portion of said third portion of said valve prior to insertion of the luer tip widens towards its lower end portion.

Claim 90 (previously presented): The connector device of claim 85 wherein the luer assembly conforms to ISO standards.